RAW SEQUENCE LISTING

The Biotechnology Systems Branch of the Scientific and Technical Information Center (STIC) no errors detected.

Application Serial Number: _10/537,642_

Source: _PCT_

Date Processed by STIC: _2/24/06_

ENTERED

Pd

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     RAW SEQUENCE LISTING              DATE: 02/24/2006
     PATENT APPLICATION:  US/10/537,642   TIME: 12:52:01

     Input Set : F:\EPI-103X PCT.ST25.txt
     Output Set: N:\CRF4\02242006\J537642.raw

  3 <110> APPLICANT: Epimmune, Inc.
  4        The United States of America as Represented by the
  5        Secretary of the Navy
  6        Sette, Alessandro
  7        Doolan, Denise L.
  8        Carucci, Daniel J.
  9        Sidney, John
 10        Southwood, Scott
 12 <120> TITLE OF INVENTION: PLASMODIUM FALCIPARUM ANTIGENS AND METHODS OF USE
 14 <130> FILE REFERENCE: EPI-103X
-> 16 <140> CURRENT APPLICATION NUMBER: US/10/537,642
-> 17 <141> CURRENT FILING DATE: 2005-06-06
 19 <150> PRIOR APPLICATION NUMBER: US 60/431,494
 20 <151> PRIOR FILING DATE: 2002-12-06
 22 <160> NUMBER OF SEQ ID NOS: 1161
 24 <170> SOFTWARE: PatentIn version 3.2
 26 <210> SEQ ID NO: 1
 27 <211> LENGTH: 1904
 28 <212> TYPE: PRT
 29 <213> ORGANISM: Plasmodium falciparum
 31 <400> SEQUENCE: 1
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 38              20                  25                  30
 41 Ile Tyr Asn Asn Cys Glu Asn Asp Ile Tyr Ser Leu Tyr Leu Asn Ile
 42          35                  40                  45
 45 Ile Asn Gln Tyr Lys Asn Cys Leu Asp Gly Glu Lys Lys Leu Phe Leu
 46      50                  55                  60
 49 Asn Lys Cys Ile Lys Asn Gly Asn Val Lys Tyr Ile Glu Lys Val Val
 50 65                  70                  75                  80
 53 Lys Gln Ile Ile Glu Lys Lys Asn Val Tyr Asn Asp Ile Asp Asp Lys
 54              85                  90                  95
 57 Ser Ile Lys Lys Ser Ile Asp Leu Leu Ile Tyr Pro Cys Val Tyr Glu
 58              100                 105                 110
 61 Ile Asn Lys Asn Glu Phe Tyr Tyr Thr Thr Ser Cys Cys Ser Gly Arg
 62          115                 120                 125
 65 Ile Val Ile Phe Lys Glu Val His Ile Asn Asn Lys Asn Asp Asn Gln
 66      130                 135                 140
 69 Lys Lys Ile Phe Lys Asn Ser Thr Thr Ser Gln Glu Lys Lys Glu Glu
 70 145                 150                 155                 160
 73 Asn Ile Ser His His Leu Ser Asn Ile Asn Leu Leu Asn Val His Glu
 74              165                 170                 175
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 77 Lys Asp Glu Leu Phe Leu Ser His Phe Lys Lys Asn Phe Ile Leu Gln
 78             180             185             190
 81 Asn Asn Glu Glu Lys Tyr Thr Tyr Cys Ser Asp His Asp Ile Ser Ser
 82         195             200             205
 85 Phe Phe Asp Val Ser Lys Lys Lys Thr Asn Lys Trp Glu Asp Ile Tyr
 86     210             215                 220
 89 Glu Glu Lys Asn Leu Lys Glu Asn Ile Leu Tyr Ile Asn Lys Glu His
 90 225             230                 235                 240
 93 Lys Lys Lys Lys Val Arg Lys Lys Lys Lys Ile His Lys Lys Asn Val
 94             245                 250                 255
 97 His Ile Leu Tyr Ser Ser His Ser His Gln His Leu Lys Tyr Asp Ile
 98             260             265                 270
101 Lys Val Ile Lys Asp Ile Leu Lys Lys Glu Leu Phe Gln Asn Tyr Phe
102         275             280             285
105 Asp Val Asn Gln Arg Asn Asp Tyr Lys Asn Ile Ser Phe Asp Phe Met
106     290             295             300
109 Gly Thr Lys Lys Tyr Ser Leu Gln Asn Glu Val Asn Leu Asn Ser Ser
110 305             310             315                 320
113 Ile Ile Thr Met Ser Asp Lys Glu Gly Met Lys Lys Lys Glu Lys Asn
114             325             330                 335
117 Asn Lys Val Ile Asn Ile Leu Asn Asn Gln Asn Lys Arg Asn Ile Phe
118             340             345             350
121 Ile Lys Phe Glu Pro Phe Ile Ile His Val Lys Cys Thr Thr Phe Leu
122         355             360             365
125 Ser Ala Leu Lys Leu Leu Lys Ile Ala Gln Tyr Ala Gly Leu Lys Gln
126     370             375             380
129 Ser Gly Ile Leu Asn Phe Asn Lys His Val Thr Val Ala Ile Arg Gly
130 385             390             395                 400
133 Ser Met Arg Leu Glu His Leu Leu Gly Asp Ile His Pro Thr Leu Gln
134             405             410                 415
137 Gln Thr Asn Leu Met Glu Ile Ile His Ile Cys Asn Asn Lys Leu Ser
138             420             425             430
141 Lys Asn Leu Ser Gln Leu Val His Phe Tyr Lys Cys Phe Lys Gln Phe
142         435             440             445
145 Lys Glu His Glu His Thr Tyr Gln Phe Val Ser Ile Asn Arg Glu Met
146     450             455             460
149 Leu Ser Ser Leu Glu Asn Asn Leu Ser Ser Asn Thr Lys Gln Lys Lys
150 465             470             475             480
153 Lys Ser Asn Lys Lys Asn Thr Leu His Val Lys Asp Asn Leu Gln Asp
154             485             490             495
157 Asn Lys Lys Ile Ala His His Met Lys Lys Lys Lys Glu Ile Asn
158             500             505             510
161 His Leu Tyr Leu Thr Cys Ser Gly Lys Lys Asn Ile Pro Asn Gly Asn
162             515             520             525
165 Arg Ser Ile Ala Glu Gln Asp Lys Thr Glu Cys Lys Leu Lys Asp Glu
166     530             535             540
169 Ile Ile Tyr Glu Asn Thr Glu Asn His Ile Asn Ile Ile Lys Lys Glu
170 545             550             555                 560
173 Lys Asn Ile Ile Asp Leu Asn Lys Tyr Asn Ile Gln Leu Asn Glu Glu
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PATENT APPLICATION: US/10/537,642   TIME: 12:52:01

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Output Set: **N:\CRF4\02242006\J537642.raw**

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174                 565                 570 .                575
177 Gly Tyr Ile Ile Asn Glu Asn Lys Asn Asp Lys Phe Ile Gly Trp Lys
178                 580                 585                 590
181 Ile Leu Gly Asn Asn Asn Met Asn Val Gln Asn Phe Phe Val Trp Gly
182             595                 600                 605
185 His Asp Met Phe Met Gln Glu Asn Lys Ile Tyr Met Phe Gly Gly Phe
186         610                 615                 620
189 Ser Lys Gly Val Arg Asn Asn Lys Leu Lys Ile Tyr Asp Ile Ile Asn
190 625                 630                 635                 640
193 Lys Lys His Phe Ile Tyr Asp Thr Glu Leu Pro Ser Leu Val Phe His
194             645                 650                 655
197 Asn Phe Val Gln Leu Asp Asp Lys Phe Ala Phe Ile Phe Gly Gly Arg
198             660                 665                 670
201 Gln Asn Pro Lys Asn Cys Thr Asn Met Val Trp Val Tyr Asn Ile Lys
202         675                 680                 685
205 Glu Asn Phe Trp Ile Lys Ala Arg Arg Thr Ser Thr Leu Val Arg Lys
206         690                 695                 700
209 Asn Lys Asn Val Leu Phe Leu Glu Lys Met Glu Lys Asn Met Glu Val
210 705                 710                 715                 720
213 Lys Met Asp Arg Met Lys Tyr His Met Gly Lys Lys Tyr Asn Asn Asp
214             725                 730                 735
217 Asp Asn Asn Ser Asp Asn Asn Asn Asp Asn Asn Asn Asp Asn Asn Asn
218             740                 745                 750
221 Asn Asn Phe Leu Cys Asn Asp Glu Asn Ile Phe Tyr Phe Asn Asn Glu
222             755                 760                 765
225 Glu Glu Pro Cys Pro Arg Tyr Arg His Ala Ser Val Phe Val Arg Arg
226         770                 775                 780
229 Tyr Ile Lys Lys Ser Lys Ser Ile Tyr Ile Phe Tyr Thr Tyr Gly Gly
230 785                 790                 795                 800
233 Val Asn Glu Lys Asn Glu Ile Leu Asn Asp Ile Trp Glu Gly Lys Ile
234             805                 810                 815
237 Ile Leu Asn Leu Glu Asp Lys Gly Ile Ala His Ile Glu Trp Asn Lys
238             820                 825                 830
241 Lys Asn Cys Ser Gln Lys Thr Glu Ala Cys Arg Ile Asn Asn His Ser
242         835                 840                 845
245 Met Ile Tyr Asn Lys Lys Lys Asn Phe Ile Tyr Ile Val Gly Gly Tyr
246     850                 855                 860
249 Gln Asp Asn Asp Lys Asp Asn Tyr Thr Gln Tyr Asn Glu Tyr Asn Asn
250 865                 870                 875                 880
253 Asn Asn Asn Asn Asn Asn Lys Asp Asn Ser Val Asn Ser Asp Asp Met
254             885                 890                 895
257 Ile Gly Met Pro Asn Leu Ser Ser Thr Val Val Cys Lys Lys Met Glu
258         900                 905                 910
261 Tyr Leu Tyr Thr Tyr Asp Ile Lys Lys Asp Asn Phe Phe Tyr Thr Lys
262         915                 920                 925
265 Cys Leu Gly Asp Asp Asn Met Glu Leu Lys Ala Tyr Pro Ser Asp Arg
266     930                 935                 940
269 Phe Ser His Ser Thr Cys Leu Ile Asn His Asn Phe Phe Met Leu Val
270 945                 950                 955                 960
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273 Gly Gly Ile Asn Ile His Arg Thr Leu Asn Asp Val Trp Leu Phe His
274             965             970             975
277 Ile Lys Thr Asn Lys Trp Asn Tyr Leu Gly Thr Phe Thr Phe Gln Asn
278             980             985             990
281 Met Tyr Val Arg Ser Lys Val Val  Ser Glu Asn Asn Cys  Val Tyr Ile
282         995             1000            1005
285 Ile Gly  Gly Gly Cys Thr Val  Phe Thr Phe Gly Ser  Phe Phe Asp
286     1010            1015            1020
289 Val Pro  Ile Trp Ser Asn Phe  Ser Gly Ile Met Lys  Ser Ile Gln
290     1025            1030            1035
293 His Lys  Glu Leu Lys Asn Val  Leu Ile Phe Ser Glu  Asp Arg Glu
294     1040            1045            1050
297 Val Lys  Glu Gly Gln Ala Thr  Tyr Asn Asn Glu Ile  Lys Lys Asn
298     1055            1060            1065
301 Cys Gly  Asn Asn Asn Asp Asn  Asn Asn Asn Asn Asn  Asn Asn Asn
302     1070            1075            1080
305 Asn Asn  Asn Asn Lys Cys Ser  Asn Asn Tyr Asn Ile  Leu Val Asp
306     1085            1090            1095
309 Lys Val  Ala Arg Asn Glu His  Leu Glu Lys Tyr Asn  Leu Cys His
310     1100            1105            1110
313 Asn Met  Leu Ile Glu His Lys  Asp Val Ile Lys Lys  Glu Ile Leu
314     1115            1120            1125
317 Val Phe  Glu Lys Lys Lys Lys  Lys Lys Lys Lys Lys  Asp Glu Lys
318     1130            1135            1140
321 Gly Asp  Asp Ile Met Asp Val  Glu Lys Lys Asn Glu  Leu Pro His
322     1145            1150            1155
325 Ile Ile  Asp Glu Glu Lys Lys  Gly Thr Asp Arg Asp  Val Glu Lys
326     1160            1165            1170
329 Ser Ser  Phe Cys Leu Asp Glu  Lys Ser Ile Lys Ile  Gly Leu Tyr
330     1175            1180            1185
333 Ile Ile  Ile Lys Asn Lys His  Phe Val Lys Gln Ile  Lys Val Tyr
334     1190            1195            1200
337 Leu Glu  Asn Lys Lys Met Phe  Asp Asn Ser Leu Lys  Ile Tyr Asn
338     1205            1210            1215
341 Pro Lys  Gly Asn Gln Lys Asn  Glu Glu Asn Glu Lys  Asn Glu Glu
342     1220            1225            1230
345 Asn Glu  Lys Asn Glu Glu Asn  Glu Lys Asn Glu Glu  Asn Glu Lys
346     1235            1240            1245
349 Asn Glu  Glu Asn Glu Lys Asn  Glu Asp Tyr Asn Lys  Ile Met Gly
350     1250            1255            1260
353 Glu Glu  Lys Lys Phe Tyr Val  Pro Ile Lys Lys Lys  Leu Asp Asp
354     1265            1270            1275
357 Asp Ile  Leu Lys Asn Asp Glu  Tyr Phe Lys Thr Val  Leu Leu Asp
358     1280            1285            1290
361 Lys Ile  Glu Arg Cys Asn Asp  Gly Asn Ile Leu Tyr  Tyr Glu Lys
362     1295            1300            1305
365 Val Ile  Cys Glu Ile Tyr Asn  Gly Lys Tyr Gln Asp  Asn Ile Lys
366     1310            1315            1320
369 Ser Gln  Asn Ser Asn Thr Phe  Leu Lys Lys Lys Leu  Arg Ile Leu
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370      1325                  1330                  1335
373 Phe His  Lys Phe Leu Asn Lys  Lys Val Lys Asn Tyr  Leu Asn Ser
374      1340                  1345                  1350
377 Ser Glu  Lys Lys Met Val Leu  Gln Gly Tyr Arg Lys  Tyr Glu Ile
378      1355                  1360                  1365
381 Ile Gly  Asn Ile Leu Ile Phe  His Tyr Lys Tyr Phe  Glu Cys Ile
382      1370                  1375                  1380
385 Met Lys  Leu Tyr Lys Val Tyr  Glu Gly Lys Leu Lys  Lys Tyr Lys .
386      1385                  1390                  1395
389 Lys Glu  Ile Asn Glu Met Ile  Glu Arg Arg Arg Leu  Tyr Arg Asp
390      1400                  1405                  1410
393 Tyr Ser  Tyr Ile Ile Lys Asn  Lys Lys Lys His Asn  Lys Leu Val
394      1415                  1420                  1425
397 Ser Cys  Phe Leu Met Asn Asp  Ile Tyr Glu Tyr Lys  Tyr Tyr Val
398      1430                  1435                  1440
401 Lys Glu  Val Lys Lys Phe Trp  Leu Ala Ile Lys Asp  Ile Phe Asn
402      1445                  1450                  1455
405 Asn Lys  Asp Ile Phe Asn Asn  Lys Glu Ile Ile Leu  Asn Thr Asn
406      1460                  1465                  1470
409 Ile Leu  Ser Leu Lys Lys Lys  Lys Lys Glu Lys Lys  Lys Lys Lys
410      1475                  1480                  1485
413 Lys Asn  Asn Asn Asn Asn Lys  Phe Tyr Val Lys Val  Lys Phe Asn
414      1490                  1495                  1500
417 Lys Lys  Gly Ile Thr Asn Lys  Ile Asn Ile Leu Leu  Tyr Arg Arg
418      1505                  1510                  1515
421 Arg Lys  Asn Leu Phe Asp Glu  Asn Phe Cys Arg Asn  Ile Met Lys
422      1520                  1525                  1530
425 Arg Asn  Lys Asn Cys Glu Ile  Ile Lys Lys Lys Arg  Lys Ile Lys
426      1535                  1540                  1545
429 Cys Val  Ala Leu Tyr Glu Lys  Val His Gly Lys Leu  Arg Gln Asn
430      1550                  1555                  1560
433 Lys Ile  His Ile Val Cys Gly  Lys Asn Leu Lys Thr  Val His Ile
434      1565                  1570                  1575
437 Glu Asn  Lys Ile Lys Tyr Lys  Leu Asp Leu Thr Lys  Cys Met Phe
438      1580                  1585                  1590
441 Ser Ser  Gly Asn Gly Thr Glu  Lys Glu Arg Met Lys  Asn Met Tyr
442      1595                  1600                  1605
445 Ile Val  Ser Asn Asn Asp Asp  Asn Ile Asn Asn Lys  Asp Lys Asn
446      1610                  1615                  1620
449 Lys Asn  Asn Asn Asn Asn Asn  Asn Asn Asn Asp Asn  Asn Asn Leu
450      1625                  1630                  1635
453 Leu Asp  Glu Lys Arg Asp Arg  Val Lys Glu Asn Val  Val Asp Leu
454      1640                  1645                  1650
457 Phe Cys  Gly Val Gly Tyr Phe  Thr Leu Pro Leu Leu  Lys Cys Ile
458      1655                  1660                  1665
461 Glu Ala  Gln Asn Lys Ile Asn  Asn Tyr Phe Ala Cys  Asp Ile Asn
462      1670                  1675                  1680
465 Pro Asp  Ser Leu Lys Leu Leu  Arg Glu Ser Ile Lys  Leu Asn Asn
466      1685                  1690                  1695
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RAW SEQUENCE LISTING ERROR SUMMARY   DATE: 02/24/2006
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Input Set : **F:\EPI-103X PCT.ST25.txt**
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ease Note:
ɘ of n and/or Xaa have been detected in the Sequence Listing. Please review the
ϡuence Listing to ensure that a corresponding explanation is presented in the <220>
<223> fields of each sequence which presents at least one n or Xaa.

ʇ#:5; Xaa Pos. 85,123,353
ʇ#:56; Xaa Pos. 7
ʇ#:968; Xaa Pos. 1

VERIFICATION SUMMARY   DATE: 02/24/2006
PATENT APPLICATION: **US/10/537,642**   TIME: 12:52:02

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Output Set: **N:\CRF4\02242006\J537642.raw**

16 M:270 C: Current Application Number differs, Replaced Current Application Number
17 M:271 C: Current Filing Date differs, Replaced Current Filing Date
1369 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:5 after pos.:80
341 Repeated in SeqNo=5
9464 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:56 after pos.:0
10410 M:257 W: Feature value mis-spelled or invalid, <221> Name/Key for SEQ ID#:112
24960 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:968 after pos.:0